Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): 1. A method for forming a planar microfluidic device which comprises:

a. forming a laminate structure comprising a negative photoresist matrix layer and a non-silicon planar substrate layer,
b. forming on the matrix layer side of the laminate a radiation resistant mask over at least one area defining a desired cavity in the matrix layer,
c. exposing the matrix side of the laminate structure to radiation to render the exposed portions resistant to etching,
d. developing the matrix layer to form a cavity extending into the laminate structure from the matrix layer side to the interface and
e. laminating to the laminate structure on the matrix side a membrane layer covering the cavity, whereby to form a chamber in the structure.

Claim 2 (previously presented): A method as in claim 1 and wherein the negative photoresist matrix layer is formed by laminating to the substrate a preformed negative photoresist sheet.

Claim 3 (previously presented): A method as in claim 2 and wherein the negative photoresist sheet is a film.

Claim 4 (previously presented): A method as in claim 1 and wherein the membrane laminated on the matrix side of the laminated structure is a negative photoresist which after lamination thereof is exposed to radiation on the side of the membrane remote from the matrix layer to thereby fix the membrane and bond the membrane to the matrix side of the laminated structure.

Claim 5 (previously presented): A method as in claim 4 and wherein, prior to fixing the membrane, a radiation resistant mask is formed over the membrane on the side of the membrane remote from the matrix layer at at least one area defining a desired hole in the membrane that is aligned with the cavity and, following exposure of the membrane to radiation, the membrane is developed to etch a passage through the membrane for fluid communication with the cavity in the matrix layer.

Claim 6 (previously presented): A method as in claim 1 and wherein the planar substrate layer comprises a negative photoresist, a radiation-opaque electrode is formed on the matrix layer side of the planar substrate layer prior to formation of the laminate structure, the mask is aligned with the electrode and covers a portion thereof and the substrate layer is developed, whereby to etch a larger well beneath the electrode extending through the substrate layer.

Claim 7 (previously presented): A method of constructing an electrochemical cell comprised of a laminated film substrate, comprising:

a. forming a radiation-opaque electrode on a first surface of a first flexible negative photoresist,
b. laminating a second flexible negative photoresist to the first photoresist at the first surface of the first photoresist, thereby forming an interface between the first and second photoresists at the first surface of the first photoresist,

c. forming a mask on the side of the second photoresist remote from the interface between the first and second photoresists that aligned with the electrode and covering a portion thereof,
d. exposing the second photoresist to radiation from the side opposed to the interface between the first and second photoresists,
e. developing the photoresists, whereby to etch a well through the second photoresist to the electrode and a larger well beneath the electrode, extending through the first photoresist.

Claim 8 (previously presented): A method as in claim 7 and including the step of laminating to the second photoresist on the side of the second photoresist remote from the interface between the first and second photoresists a membrane layer covering the well in the second photoresist whereby to form a fluid barrier to the exterior of the well.

Claim 9 (previously presented): A method as in claim 8 and wherein the membrane laminated to the second photoresist is a negative photoresist which after lamination thereof is fixed by exposure to radiation on the side of the membrane remote from the interface between the first and second photoresists.

Claim 10 (previously presented): A method as in claim 9 and wherein, prior fixing the membrane, a radiation resistant mask is formed over the membrane on the side of the membrane remote from the interface between the first and second photoresists at at least one area defining a desired hole in the membrane that is aligned with the well and, following exposure of the membrane to radiation, the membrane is developed to etch a passage through the membrane for fluid communication with the well in the second photoresist.

Claims 11-22 (withdrawn).